

In the Claims

1. (Currently amended) A computer implemented method of verifying events generated by an agent, said method comprising:

5           detecting a stimulus at an input of said agent;  
            determining whether generation of an event by said agent in response to said stimulus is conditional;  
            creating an expectation of said event based at least in part on said stimulus, wherein said agent is expected  
10           to generate said event;  
            indicating that said expectation is speculative if said generation of said event is conditional, so that said expectation is a speculative expectation;  
            verifying whether said event was appropriately  
15           generated by said agent; and  
            signaling an error if said event was not  
            appropriately generated by said agent.

2. (Currently amended) The method of claim 1, said  
determining whether ~~wherein~~ said generation of said event is  
20           conditional comprising determining that said generation is  
            conditional if said stimulus is a response containing an unmodified copy of requested data and other sources accessible by said agent may contain a modified copy of said requested data.

3. (Currently amended) The method of claim 1, said  
determining whether ~~wherein~~ said generation of said event is  
25           conditional comprising determining that said generation is  
            conditional if said stimulus comprises a local read request response by a memory local to said agent.

Appl. No. 10/712,855

4. (Original) The method of claim 1, further comprising determining whether said event is expected based at least in part on said stimulus before creating said expectation of said event.

5. (Currently amended) The method of claim 1, further comprising determining whether all snoop responses have been received by said agent before said determining whether said generation is conditional ~~enough information has been received by said agent to resolve said conditional generation of said event.~~

6. (Cancelled)

7. (Currently amended) The method of claim 1, further comprising determining whether conditions indicate that said event should be generated by said agent, and if so, converting said speculative expectation to a non-speculative expectation by changing said indication that said expectation is speculative ~~if conditions indicate that said event should be generated by said agent.~~

8. (Original) The method of claim 7, wherein said conditions comprise said agent receiving all expected snoop responses, said expected snoop responses containing no modified data.

9. (Currently amended) The method of claim 1, further comprising determining whether conditions indicate that said event should not be generated by said agent, and if so, deleting said speculative expectation ~~if conditions indicate that said event should not be generated by said agent.~~

Appl. No. 10/712,855

10. (Original) The method of claim 9, wherein said conditions comprise said agent receiving a snoop response containing modified data.

5 11. (Currently amended) The method of claim 1, ~~further said~~ verifying comprising:

detecting said event at an output of said agent; and  
checking said expectation to verify whether said agent correctly generated said event.

10 12. (Currently amended) The method of claim 1, ~~further said~~ verifying comprising:

detecting an outgoing event at an output of said agent; and  
checking a list of expectations of events to verify whether said agent correctly generated said outgoing event.

15 13. (Original) The method of claim 1, wherein said generation of said event is conditional, said method further comprising:

20 detecting an outgoing event at an output of said agent; and  
storing an indication that said outgoing event occurred in said speculative expectation.

25 14. (Original) The method of claim 13, further comprising:

detecting information at said input of said agent indicating that said event corresponding to said speculative expectation should not be generated by said agent; and  
signaling an error indicating that said outgoing event should not have occurred.

Appl. No. 10/712,855

15. (Currently amended) An apparatus for verifying events whose performance by a memory agent is conditional, comprising:

5 a. at least one physical computer readable medium; and  
b. computer readable program code stored on said at least one computer readable medium, said computer readable program code comprising:

i. program code for reading an input signal at an input of said memory agent;

10 ii. program code for generating a speculative expectation for an output signal based on said input signal, wherein said memory agent is expected to generate said output signal if at least one condition is satisfied;

15 iii. program code for reading at least one additional input signal at said input to determine whether said at least one condition is satisfied; and

20 iv. program code for promoting said speculative expectation to a non-speculative expectation if said condition is satisfied;

v. program code for verifying whether said output signal is appropriately generated; and

vi. signaling an error if said output signal was not appropriately generated.

25 16. (Original) The apparatus of claim 15, wherein said input signal comprises a local read response containing an unmodified copy of requested data.

30 17. (Original) The apparatus of claim 15, further comprising program code for deleting said speculative expectation if said condition is not satisfied.

18. (Currently amended) The apparatus of claim 17, said  
program code for deleting said speculative expectation  
comprising program code for deleting said speculative  
expectation ~~wherein said condition is not satisfied~~ if said  
5 memory agent receives a modified copy of requested data.

19. (Original) The apparatus of claim 15, wherein said  
condition comprises said memory agent receiving all expected  
snoop responses, none of which contain a modified copy of  
requested data.

20. (Currently amended) An apparatus for testing the  
operation of a memory agent, said apparatus comprising  
tangibly embodied electronically executable instructions, said  
apparatus comprising:

means for generating a speculative expectation of an  
15 event to be conditionally generated by said memory agent;

means for determining whether at least one condition  
is satisfied indicating that said memory agent should  
generate said event; and

means for promoting said speculative expectation to  
20 a non-speculative expectation if said condition is  
satisfied;

means for verifying whether said event was  
appropriately generated by said memory agent, thereby  
testing said operation of said memory agent; and

25 means for signaling an error if said event was not  
appropriately generated by said memory agent.